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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/304,841 05/05/99 KOYAMA

M Q54287

EXAMINER
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IM52/0706

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PATTERSON, M	
ART UNIT	PAPER NUMBER

1772  
DATE MAILED:

10  
07/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/304,841

Applicant(s)

KOYAMA ET AL.

Examiner

Marc A Patterson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### WITHDRAWN REJECTIONS

1. The 35 U.S.C. 103 (a) rejection of Claims 1 – 13 as being unpatentable over Otaki et al (European Patent No. 0818505), and the 35 U.S.C. 103 (a) rejection of Claims 14 and 15 as being unpatentable over Otaki et al. in view of Koyama et al (U.S. Patent No. 5,274,024), of record in the previous Action, are withdrawn.

### NEW REJECTIONS

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 7 and 12 – 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Otaki et al (U.S. Patent No. 5,908,676).

Otaki et al. disclose a thermoplastic resin composition, containing an oxygen absorbing agent, which is intended for use in the making of bottles (containers). The composition comprises an elastomer and a thermoplastic resin. Ethylene – propylene copolymer is the elastomer, and polypropylene the thermoplastic resin (column 4, lines 52 – 65). No particular restriction is put on the mixing ratio (column 4, lines 67 – 68; column 5, lines 1 – 12). A multi – layer laminate may be made by adding layers of thermoplastic resin to both sides of a layer of the oxygen – absorbing layer (column 7, lines 40 – 55). An iron – type oxygen absorbing agent may be contained in the blend in an amount of 10 – 70% by weight (column 6, lines 39 – 48).

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The absorbing agent is preferably iron powder with metal halide powder, (an oxidation promoter) adhered to the surface. The particle diameter of the iron powder is 50  $\mu\text{m}$  or less, and the amount of the metal halide powder is present in the amount of 0.1 to 10% by weight with respect to the iron powder (column 6, lines 5 – 30).

The compatibility of ethylene – propylene copolymer and polypropylene, and the formation of a multilayer distributed structure in the resin matrix, are inherent properties of the composition disclosed by Otaki et al., as it is identical to the composition of the claimed invention.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otaki et al. (U.S. Patent No. 5,908,676).

The difference between the invention of Otaki et al. and the claimed invention is that in the claimed invention, co – grinding (dry milling) of the iron powder and metal halide powder is the procedure used to adhere the metal halide powder to the surface of the iron powder, rather than spraying an aqueous solution of the metal halide powder onto the surface of the iron powder and allowing time for drying. The difference between co – grinding and spraying is essentially a processing variation, and it would have been obvious to one of ordinary skill in the art to make this processing change in order to more quickly adhere the metal powder to the surface of the

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iron powder in the making of the oxygen absorbing agent. It would also have been obvious to one of ordinary skill in the art to select the apparent density and physical dimensions for the absorbing agent (aspect ratio, flat or spindle – shaped, specific surface area, compression degree, etc.) in order to obtain the most efficiency in oxygen absorption.

6. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otaki et al (U.S. Patent No. 5,908,676). in view of Koyama et al (U.S. Patent No. 5,274,024).

The invention of Otaki et al. is discussed above. The invention of Otaki et al. differs from the claimed invention in that in the multi – layer laminate which is disclosed, and used to make bottles, is not used to make caps for those bottles. The oxygen – absorbing resin which is disclosed is also not used to make liners for bottle caps. Koyama et al. teach that the same oxygen – absorbing multi – layer laminate which is used to make a container may be used to make caps for the container, and that the oxygen – absorbing resin may be used to make liners for the caps (column 1, lines 50 – 68; column 2, lines 1 – 56). It would therefore have been obvious to one of ordinary skill in the art to use the multi – layer laminate disclosed by Otaki et al. to make caps for bottles, and the oxygen – absorbing resin of this laminate to make liners for bottle caps, if it was desired to not use any other materials in the manufacture of a complete bottle.

#### ANSWERS TO APPLICANT'S ARGUMENTS

7. Applicant's arguments regarding the 35 U.S.C. 103 (a) rejection of Claims 1 – 13 as being unpatentable over Otaki et al (European Patent No. 0818505), and the 35 U.S.C. 103 (a)

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rejection of Claims 14 and 15 as being unpatentable over Otaki et al. in view of Koyama et al (U.S. Patent No. 5,274,024), and Applicant's amended Claims 1 and 11 have been carefully considered and are deemed to be persuasive. The rejections are therefore withdrawn. The new rejections above are based on Otaki et al (U.S. Patent No. 5,908,676), which is identical to, and which predates, Otaki et al (European Patent No. 0818505); the answers below regarding Applicant's arguments are directed to the new rejections.

Applicant argues, on page 10 of Paper No. 9 dated 4/20/01, that Otaki et al. recommend a composition comprising a polypropylene resin and polyethylene elastomer having 'good' compatibility, unlike the claimed invention, which requires an incompatible polypropylene resin and polyethylene elastomer. However, the composition disclosed by Otaki et al., comprising polypropylene resin and ethylene – propylene copolymer elastomer, reads on the composition claimed by Applicant in Claim 1, which only specifies a polypropylene resin and polyethylene elastomer; the equivalence of the compositions is expressed in the new 35 U.S.C. 102(b) rejection above. The compatibility is therefore an inherent property of the composition of Otaki et al. The Examiner notes that pages 16 and 17 of the Specification list ethylene – propylene copolymer as an elastomer and polypropylene as a resin for use in the composition, so that the composition, by viewing of the Specification alone is exactly the same as that disclosed by Otaki et al.


### *Conclusion*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The

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examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (703) 308-2364. FAX communications should be sent to (703) 305-3599. FAXs received after 4 P.M. will not be processed until the following business day.

M.A.P.

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

7/2/01